

Supplementary Information

Macrophage-targeted Nanoparticles Mediate Synergistic Photodynamic

Therapy and Immunotherapy of Tuberculosis.

Na Tian,^{a,b} Huijuan Duan,^{a,b} Tingming Cao,^{a,b} Guangming Dai,^{a,b} Gang Sheng,^{a,b} Hongqian Chu^{*a,b} and Zhaogang Sun^{*a,b}

^a Beijing Chest Hospital, Capital Medical University, Beijing 101149, China.

^b Beijing Key Laboratory on Drug-Resistant Tuberculosis Research, Beijing Tuberculosis and Thoracic Tumor Institute, Beijing 101149, China

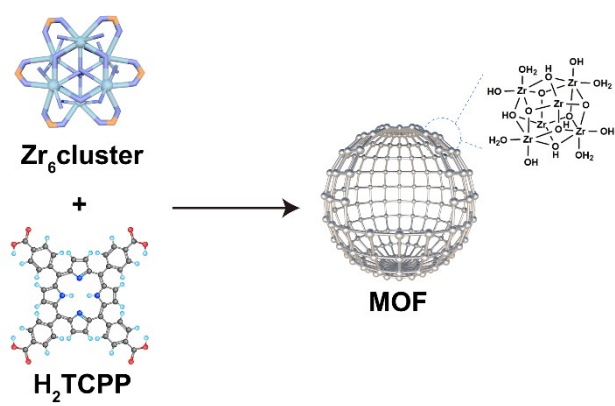


Figure S1: The illustration of PCN 224 3D framework structure.

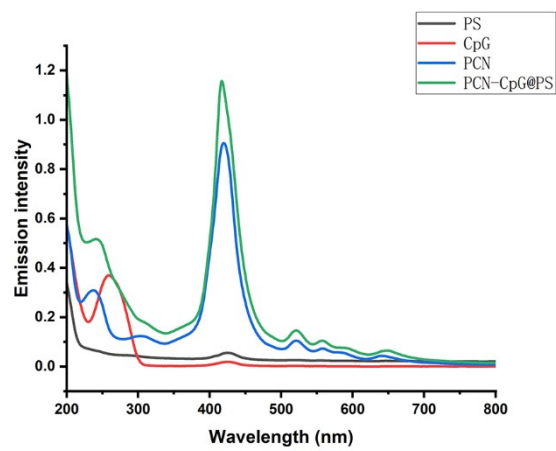


Figure S2: UV-vis spectra of PS, CpG 2395, PCN and PCN-CpG@PS in aqueous solution.

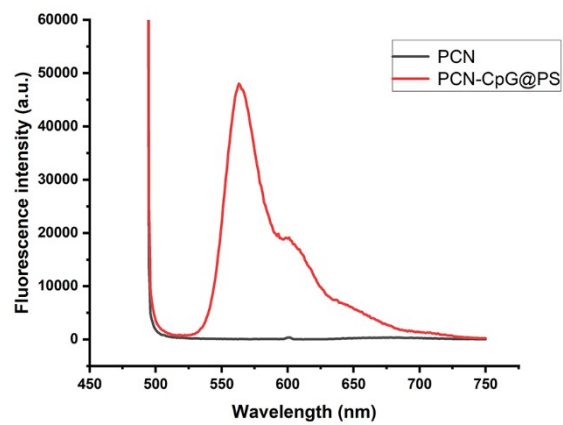


Figure S3: Fluorescence emission spectra of PCN and PCN-CpG@PS in aqueous solution.

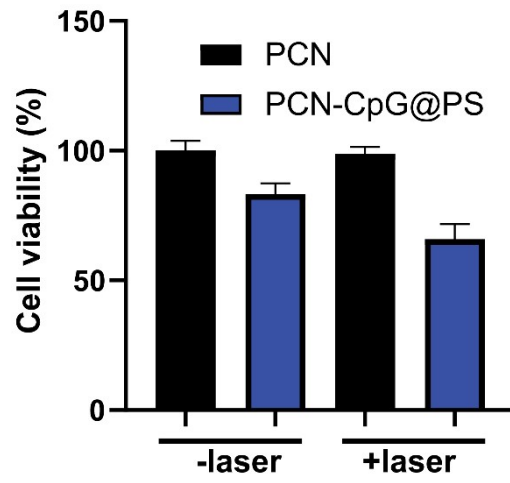


Figure S4: Cytotoxicity of 10 $\mu\text{g}/\text{mL}$ of PCN-CpG@PS under dark conditions and irradiated with 640 nm light.

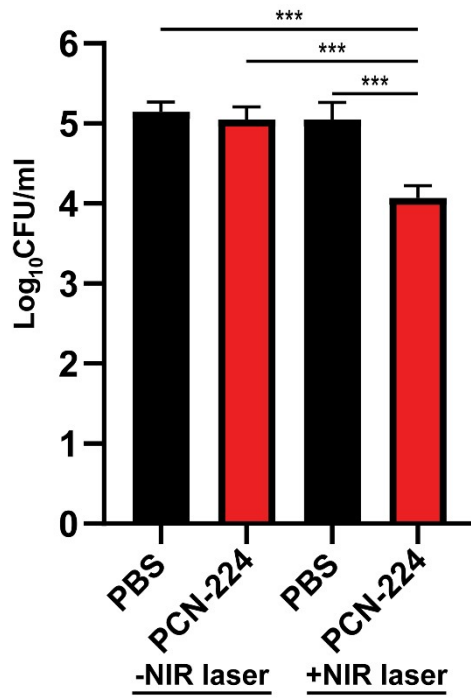


Figure S5: The number of Mtb in RAW264.7 cells after different treatments with/without laser irradiation. N=3. Bar: mean; error bar: standard deviation. *** $P_{1\text{-way ANOVA}} < 0.001$.

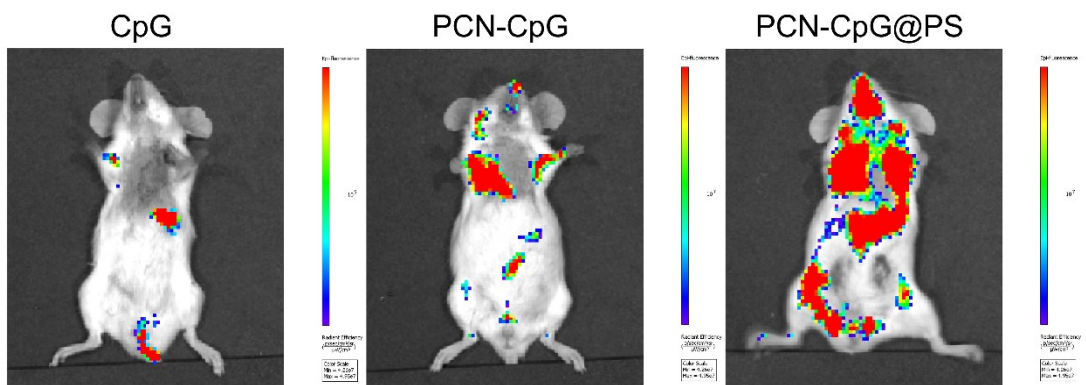


Figure S6: Fluorescence images of BALB/c mice at 6 h after tail vein injection of CpG, PCN-CpG and PCN-CpG@PS, respectively.

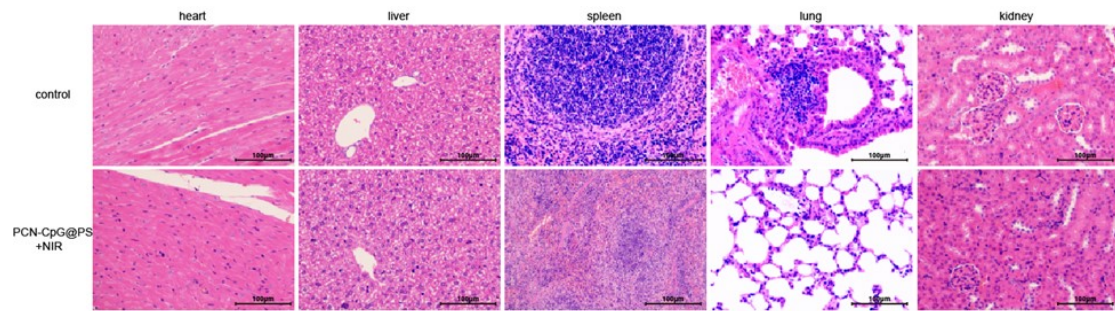


Figure S7: HE staining of the heart, liver, spleen, lung and kidney in mice of untreated and PCN-CpG@PS group. Scale bar = 100 μm.

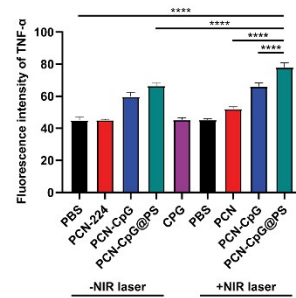
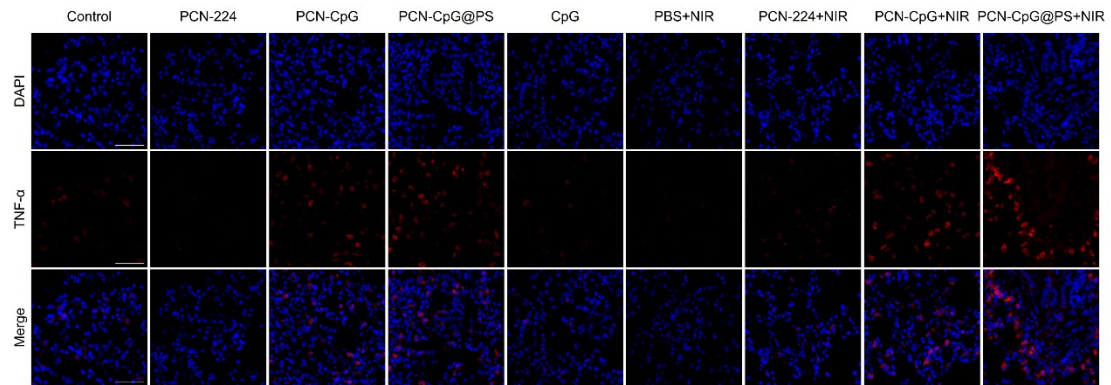


Figure S8: Immunofluorescence Staining of left lungs of differently treated BALB/c mice under laser irradiation. Composite image of TNF- α staining and intensity value of lung sections of differently treated BALB/c mice. Nuclei are visualized with Hoechst. Scale bar = 50 μ m. N=3. Bar: mean; error bar: standard deviation. **** $P_{1\text{-way ANOVA}} < 0.0001$.

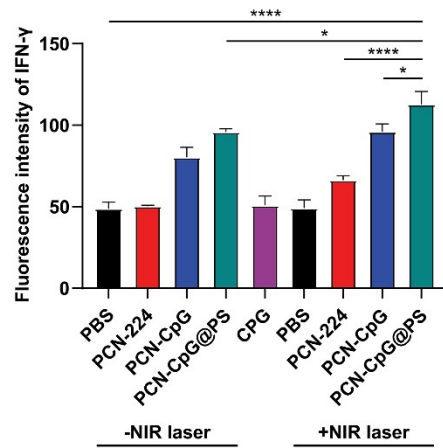
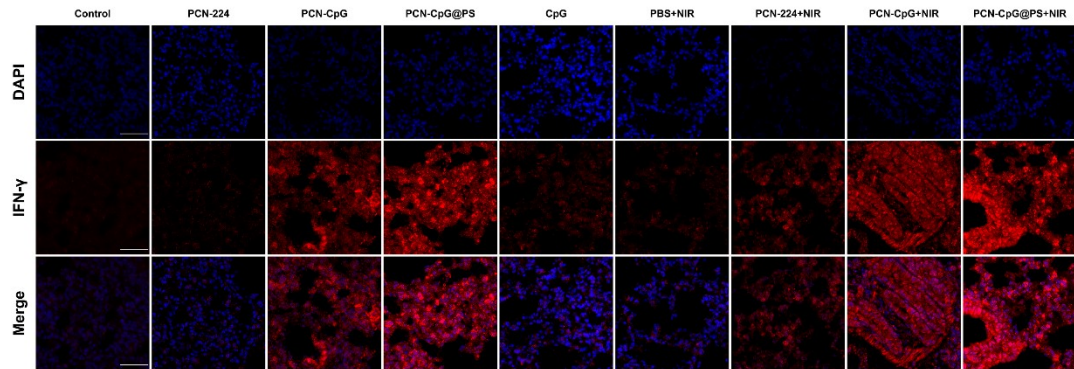


Figure S9: Immunofluorescence Staining of left lungs of differently treated BALB/c mice under laser irradiation. Composite image of IFN- γ staining and intensity value of lung sections of differently treated BALB/c mice. Nuclei are visualized with Hoechst. Scale bar = 50 μ m. N=3. Bar: mean; error bar: standard deviation. * $P_{1\text{-way ANOVA}} < 0.05$, **** $P_{1\text{-way ANOVA}} < 0.0001$.